Amendments to the Specification:

Please replace paragraph [0022] with the following amended paragraph:

[0022] In an investigation leading to this invention, YSZ TBC's having a nominal yttria content of about seven weight percent were deposited by EBPVD to have thicknesses of about 150 micrometers. Each of the TBC's were deposited on pin specimens formed of René N5 ~~Ren é N5~~ (nominal composition of, by weight, about 7.5% Co, 7.0% Cr, 6.5% Ta, 6.2% Al, 5.0% W, 3.0%Re, 1.5% Mo, 0.15% Hf, 0.05% C, 0.004% B, 0.01% Y, the balance nickel and incidental impurities), on which a platinum aluminide (PtAl) bond coat had been deposited. The microstructures of the TBC's differed from each other primarily as a result of modifications to the EBPVD process (e.g., deposition temperature, deposition pressure, rotation). The compositions of the TBC's were varied by small variations in the yttria content (about 4 to about 7 weight percent) and/or additions of small amounts (up to 5 weight percent) of ytterbia, lanthana, hafnia, or tantala. Twelve TBC's were deposited and analyzed for microstructure before and after undergoing impact and erosion testing. On the basis of this analysis, the TBC's were numerically assigned one of five types based on the columnarity and featheriness of the grain columns and the spacing between adjacent grain

columns. The coating microstructures are summarized below in Table I.

Please replace paragraph [0023] with the following amended paragraph:

[0023] Scanned images of coatings 1 and 2 are shown in Figures 4 and 3, respectively, ~~3 and 4,~~ and illustrate the differences in what are termed "closed columns" and "open columns."

Please replace paragraph [0026] with the following amended paragraph:

[0026] In a second investigation, the extent to which EBPVD deposition temperature can be used to control coating microstructure was assessed with YSZ TBC's having a nominal yttria content of about seven weight percent. The coatings were again deposited by EBPVD to have thicknesses of about 150 micrometers. Each coating was deposited on a pin specimen formed of René N5, ~~Ren é N5,~~ on which a PtAl bond coat had been deposited. The microstructures of the outer surface regions of the TBC's were modified relative to the interior regions of the coatings by increasing the power of the electron beam while depositing the final twenty-five micrometers of the coatings. The electron beam power was held at about 2.5 kW during deposition of the interior coating regions, after which

power was periodically increased in either five-second pulses to about 18 to 20 kW or ten-second impulses to about 15 to 16 kW (and therefore lower power but higher energy). Figure 5 and 6 are scanned images of a coating whose outer surface region was deposited with the ten-second pulse technique, while Figure 7 and 8 are scanned images of a coating whose outer surface region was deposited with the five-second pulse technique. From Figures 5 through 8 (in which Figures 6 and 8 are magnified regions of the coatings shown in Figures 5 and 7, respectively), it can be seen that the coating deposited with higher electron beam energy (Figures 7 and 8) resulted in a more columnar and denser grain structure, while the coating deposited with lower electron beam energy (Figures 5 and 6) was not as columnar and had more widely-spaced feathery grains resulting in a more porous microstructure. Figures 9 and 10 show scanned images of another coating specimen deposited in the same manner, but with the final electron beam power increased in 10 second impulses to about 24 kW. From Figures 9 and 10, it is evident that the outer surface region (again, about 25 micrometers in thickness) of this coating specimen was fully densified as a result of the higher electron beam power.